

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the present application:

**Listing of Claims:**

**Claims 1-17 (cancelled).**

**Claim 18 (new):** An interface circuit capable of connecting a modem to a telephone line, said interface circuit comprising:

a voltage-controlled current source, said voltage controlled current source including an operational amplifier having a positive input capable of being connected to a transmit signal driver of said modem, said operational amplifier having an output configured to drive a base of an electronic inductor transistor, said electronic inductor transistor capable of being connected across a rectified tip and ring voltage of said telephone line.

**Claim 19 (new):** The interface circuit of claim 18 wherein said operational amplifier has a negative input connected an emitter of said electronic inductor transistor.

**Claim 20 (new):** The interface circuit of claim 18 further comprising a voltage divider connected to said positive input of said operational amplifier.

**Claim 21 (new):** The interface circuit of claim 18 further comprising an impedance matching circuit connected between said positive input of said operational amplifier and a collector of said electronic inductor transistor.

**Claim 22 (new):** The interface circuit of claim 18 further comprising a resistor connected to an emitter of said electronic inductor transistor.

**Claim 23 (new):** The interface circuit of claim 18 further comprising a second transistor, said second transistor having a base connected to a collector of said electronic inductor transistor.

**Claim 24 (new):** The interface circuit of claim 18 further comprising a capacitor connected between said transmit signal driver and said positive input of said operational amplifier.

**Claim 25 (new):** An interface circuit capable of connecting a modem to a telephone line, said interface circuit comprising:

an electronic inductor capable of being connected across a rectified tip and ring voltage of said telephone line;

an operational amplifier having an output configured to drive a base of said electronic inductor transistor, wherein a hookswitch is not connected between said rectified tip and ring voltage and said modem.

**Claim 26 (new):** The interface circuit of claim 25 wherein said base of said electronic inductor transistor is connected to ground when said telephone line is on-hook.

**Claim 27 (new):** The interface circuit of claim 25 wherein said operational amplifier has a negative input connected an emitter of said electronic inductor transistor.

**Claim 28 (new):** The interface circuit of claim 25 further comprising a voltage divider connected to a positive input of said operational amplifier.

**Claim 29 (new):** The interface circuit of claim 25 further comprising an impedance matching circuit connected between a positive input of said operational amplifier and a collector of said electronic inductor transistor.

**Claim 30 (new):** The interface circuit of claim 25 further comprising a resistor connected to an emitter of said electronic inductor transistor.

**Claim 31 (new):** The interface circuit of claim 25 further comprising a second transistor, said second transistor having a base connected to a collector of said electronic inductor transistor.

**Claim 32 (new):** The interface circuit of claim 25 further comprising a capacitor connected between said transmit signal driver and a positive input of said operational amplifier.

**Claim 33 (new):** A modem interface circuit capable of being coupled to a telephone line, said modem interface circuit comprising:

a DC loop current circuit having a first operational amplifier, said first operational amplifier having a first output configured to drive a first base of a first electronic inductor transistor, said first electronic inductor transistor capable of being connected across a rectified tip and ring voltage of said telephone line;

an AC current circuit having a second operation amplifier, said second operation amplifier having a second output configured to drive a second base of a second electronic inductor transistor, said second electronic inductor transistor capable of being connected across said rectified tip and ring voltage of said telephone line.

**Claim 34 (new):** The modem interface circuit of claim 33 further comprising a voltage divider connected to a positive input of said first operational amplifier.

**Claim 35 (new):** The modem interface circuit of claim 33 further comprising a resistor connected to an emitter of said first electronic inductor transistor.

**Claim 36 (new):** The modem interface circuit of claim 33 wherein said second operation amplifier has a positive input capable of being connected to a transmit signal driver of a modem.

**Claim 37 (new):** The modem interface circuit of claim 33 further comprising an impedance matching circuit connected between a positive input of said second operational amplifier and a collector of said second electronic inductor transistor.